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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/731,213

12/06/2000

Terry Si-Fong Cheng

18-13-16

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10/28/2004

Docket Administrator (Rm. 3C-512)
Lucent Technologies Inc.
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EXAMINER

WILSON, ROBERT W

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/731,213

Applicant(s)

CHENG ET AL.

Examiner

Robert W Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 is/are allowed.
- 6) ☒ Claim(s) 11-19 is/are rejected.
- 7) ☒ Claim(s) 20-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1.0 The application of Cheng et. al. entitled "METHOD OF SCHEDULING A QUALITY OF SERVICE LEVEL IN A HIGH DATA RATE SYSTEM" filed on 12/06/2000 and amended on 8/10/04 without foreign priority was examined. Claims 1-18 are pending.

Claim Rejections - 35 USC § 103

2.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3.0 **Claims 11-14 & 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yin (U.S. Patent No.: 5,982,748).

Referring to **Claim 11**, Yin teaches: A method of scheduling a quality of service level to an end user's data transmitted from a base station (The word "base station" only appears in the preamble and not the body of the claim. The examiner has interpreted "base station" as intended use; therefore, "base station" was given no weight. Schedule based upon QoS in a network node per col. 2 lines 23-46 or Figs 1-7)

Establishing a quality of service level for each end user (QoS associated with each request per Fig 3)

Obtaining for each end user a result based on the amount of data previously sent to that end user during a specified interval of time (The CAC sums the bandwidth previously utilized by all the end user during an interval in order to calculate the utilized bandwidth for a given class per col. 5 line 51-col. 6 line 35)

Combining, for each end user, the result with the quality of service level for each end user to obtain a sum (The CAC adds up the bandwidth utilized by all of the end users for a given quality of service or class in order to determine utilized bandwidth per col. 5 line 51-col. 6 line 35)

Using the sum to determine the next end user to receive data (The CAC adds the requested bandwidth to the utilized bandwidth and compares this result to the total bandwidth available for

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a given class associated with QoS which is utilized to determine whether the request is granted per col. 5 line 51-col. 6 line 35.

Yin does not expressly call for: summing the bandwidth but teaches utilized bandwidth

It would have been obvious to one of ordinary skill in the art at the time of the invention that the utilized bandwidth is the sum of the bandwidth utilized by each user in the class for a quality of service.

In Addition Yin teaches:

Regarding **Claim 12**, wherein the result is based on the amount of data previously sent to that end user during a specific interval of time (Existing Subscribed Bandwidth or amount of data previously sent during a specific interval of time per Figs 4-7)

Regarding **Claim 13**, further comprising the step of including a data rate request by the end user to obtain the result (Receives a Connection Request or request from end user per Figs 4-17)

Regarding **Claim 14**, further comprising the steps of dividing the amount of data sent to an end user during a specific interval of time by that interval of time to obtain an average rate of data transmission and including the average rate of data transmission to obtain the result (The reference teaches that the CAC determines SCR or PCR which are rates. The SCR requested is added to the sum of the SCR utilized and this is compared to the Total SCR available per col. 3 line 12-col 8 line 20.)

Referring to **Claim 19**, Yin teaches: A method of scheduling a quality of service level to an end user's data transmitted from a base station (The word "base station" only appears in the preamble and not the body of the claim. The examiner has interpreted "base station" as intended use; therefore, "base station" was given no weight. Schedule based upon QoS in a network node per col. 2 lines 23-46 or Figs 1-7) comprising the steps of:

Establishing a quality of service level for each end user (Each request from an end user associated with QoS is translated into a Class of Service per Fig 3)

Obtaining for each end user a result based on the amount of data previously sent to that end user during a specified interval of time (The CAC sums rate of bandwidth utilized which would be SCR or PCR previously utilized by all the end user during an interval in order to calculate the utilized bandwidth for a given class per col. 5 line 51-col. 6 line 35)

Combining, for each end user, the result with the quality of service level for each end user to obtain a sum (The CAC adds rate of bandwidth requested which would be SCR or PCR to the total available bandwidth rate available per col. 5 line 51-col. 6 line 35)

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Using the sum to determine the next end user to receive data (The connection admission controller sums all of the bandwidth rate utilized by all of the individual users for a given class in order to determine utilized rate)

Yin does not expressly call for: adding the bandwidth but teaches utilized bandwidth per col. 5 line 51-col. 6 line 35

It would have been obvious to one of ordinary skill in the art at the time of the invention that the utilized bandwidth is the sum of the bandwidth rate utilized by each user in the class for a quality of service. The requested bandwidth rate is added to the sum of the bandwidth of each user in the class.

Claim Rejections - 35 USC § 103

5.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6.0 **Claims 15-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yin (U.S. Patent No.: 5,982,748) in view of Raychaudhuri et. al. (U.S. Patent No.: 5,684,791).

Regarding **Claim 15**, Yin teaches the method of Claim 14 obtaining from a base station the data rate for transmitted data requested by the end user (The end user is granted a SCR or PCR or data rate per Figures 4-5 or data rate for the end user)

Yin does not expressly call for: base station but teaches a Connection admission controller col. 3 line 20-45.

Raychaudhuri teaches: call admission control or connection admission controller in a base station per col. 6 lines 43-49.

It would have been obvious to one of ordinary skill in the art at the time of the invention to put the call admission control or connection admission controller in a base station in order utilize ATM in a mobile network.

Regarding Claims 16-18, the combination of Yin and Raychaudhuri disclosed: the method of claim 15,

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The combination of Yin and Raychauduri do not expressly call for: wherein the interval of time is greater than 30 second as claimed in **Claim 16** or wherein the interval of time is less than 10 minutes as claimed in **Claim 17**, or further comprising the step of conditioning the base station to send data to the end user determined to be the next end user at the requested data rate and requested quality of service (The applicant broadly claim "conditioning the base". The examiner interprets "conditioning the base". The CAC in the base station calculates the sum of the utilized rates or conditioning as claimed in **Claim 18** but Yin teaches that SCR and PCR are determined per Figures 4 & 5 wherein an interval of time is inherent in order to calculate SCR or PCR.

It would have been obvious to one of ordinary skill in the art at the time of the invention to make an obvious design choice by selection an interval of greater than 30 seconds as claimed in **Claim 16** or and obvious design choice for selecting an interval which is less than 10 minutes as claimed in **Claim 17** or the CAC in the base station calculates the sum of the utilized rates performs the function of conditioning in preparation for receiving and approving the next user request for a quality of service as claimed in **Claim 18**.

Allowable Subject Matter

7.0 The present invention is directed to a device which divides an indicated rate by the average rate and sums the result with a QoS level to obtain a sum. The sum is used to select an end user to receive data.

The closest prior art Yin (U.S. Patent No.: 5,982,748) discloses a Control Admission Controller (CAC) which adds the requested rate to the sum of the utilized rates and compares this sum to the available rate in order to determine whether the request for an end user's bandwidth is granted.

The closest prior art Yin (U.S. Patent No.: 5,982,748) does not disclose or anticipate or render the following claim limitation obvious either singularly or in combination with another patent:

"dividing an indicated rate by the average rate to obtain a result, combining the result with the quality of service level designated by the user to obtain a sum, and using the sum to select an end user to receive data" as claimed in **Claim 1**.

In Addition:

Claims 2-10 are allowed because they depend upon **Claim 1**.

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Claim Objections

8.0 **Claims 20-23** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The present invention is directed to a device which divides an indicated rate by the average rate and sums the result with a QoS level to obtain a sum. The sum is used to select an end user to receive data.

The closest prior art Yin (U.S. Patent No.: 5,982,748) discloses a Control Admission Controller (CAC) which adds the requested rate to the sum of the utilized rates and compares this sum to the available rate in order to determine whether the request for an end user's bandwidth is granted.

The closest prior art Yin (U.S. Patent No.: 5,982,748) does not disclose or anticipate or render the following claim limitation obvious either singularly or in combination with another patent:

“dividing the data rate requested by the end user by average rate of data transmission obtained in the result” as claimed in **Claim 20**.

In Addition:

Claims 21-23 are dependent upon **Claim 20**.

Response to Argument

9.0 The examiner respectfully disagrees with the applicant argument that the reference Yi fails to disclose a class of service request in which the system determines available resources based upon traffic flow. Yin discloses that the connection admission controller keeps track of the utilized bandwidth for a given class. The CAC adds the requested bandwidth to the utilized bandwidth and compares this result to the total bandwidth available for a given class per col. 5 line 51-col. 6 line 35.

Conclusion

10.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571/272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert W Wilson
Examiner
Art Unit 2661

RWW
October 21, 2004



**KENNETH VANDERPUYE
PRIMARY EXAMINER**